



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/725,165 | 12/01/2003 | Loc Quang Duong | EH-10832 (02-822) | 2068 |
| 34704 | 7590 | 06/26/2006 | EXAMINER | |
| BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510 | | | | HANNON, THOMAS R |
| ART UNIT | | PAPER NUMBER | | |
| | | 3682 | | |

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/725,165 | DUONG, LOC QUANG | |
| | Examiner | Art Unit | |
| | Thomas R. Hannon | 3682 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 June 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 12-14 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6,9-11,15-18 and 21-24 is/are rejected.
- 7) Claim(s) 7,8,19 and 20 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 13 March 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

The finality of the prior Office Action is withdrawn.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al (6,273,612) in view of Okamoto et al. (6,089,755).

Ono discloses a journal bearing system comprising a bushing (10) and a journal pin (not shown) within the bushing and rotatable relative to the bushing about a longitudinal axis. The bushing and journal pin have an engagement surface with an engagement length comprising a substrate material (12) and a solid lubricant (in layer 16). The layer 16 is shown to vary the concentration of the solid lubricant along the engagement length, with the concentration being highest at the point of highest load. Moreover, Ono discloses that the concentration variation of the solid lubricant is equivalent to varying the thickness of the overlay layer with a constant concentration. That is, a portion of the bearing journal that has the highest load can have an overlay with a large thickness, or equivalently a large concentration of the solid lubricant. Okamoto discloses a journal bearing in which the thickness of the overlay varies along the longitudinal length of the bushing to accommodate the high loads at the ends thereof. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Ono in other known bearing systems, notably that of Okamoto, to result in an overlay having a concentration which varies in the longitudinal direction to accommodate the high loads at the ends of the longitudinal direction. With respect to claim 3, the value of the

maximum concentration would have been obvious to one of ordinary skill in the art at the time the invention was made subject to the desired parameters. With respect to claim 4, the base material (1'6) comprises a coating applied to a substrate (12). With respect to claim 5, the substrate 12 of Ono is a copper alloy and the solid lubricant comprises molybdenum disulphide (column 8, line 56). With respect to claim 10, the resultant structure of the above combination corresponds to the structure defined by the means plus function limitation.

Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. in view of Okamoto et al. as applied to claims 5 and 10 above, and further in view of Andler.

Andler discloses a journal bearing system in which a bushing has an engagement surface comprising a concentration of solid lubricant within a copper matrix, the solid lubricant being lead. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solid lubricant and its matrix of Ono to consist of other known solid lubricant matrix overlays, including that of lead in a copper matrix, because this is taught and suggested by Andler, as being a known overlay composition for journal bearings.

Claims 9, 15-18, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. in view of Okamoto et al. as applied to claims 1-5 and 10 above, and further in view of McCreary.

McCreary discloses a bushing and journal pin assembly for a geared turbofan transmission in which the journal pin has at least one lubrication passageway (60) extending to the engagement surface. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the bushing assembly of Ono in other known devices including that of a turbofan transmission, because McCreary discloses the use of a bushing obtained by

plating. Moreover, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a journal pin with lubrication passageways, as the pin for Ono, because this is taught and suggested by McCreary as being a known manner of lubricating a bushing assembly.

Claims 7, 8, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Applicant's arguments filed June 13, 2006 have been fully considered but they are not persuasive. As noted above the finality of the prior Office Action is withdrawn, and the response is entered and treated as an amendment after a non-final Office Action.

The rejection based on 35 U.S.C. 112(2) is withdrawn in view of Applicant's amendments.

With respect to the rejections based on Ono et al. in view of Okamoto et al. Applicant states with respect to Ono "A segment has, in one embodiment, a circumferentially varying lubricant concentration (col. 8, line 59-col.9, line 13). No citations have been provided for asserted teachings of Ono et al." The citation for the teachings of Ono et al. is Ono et al. It is clear from Ono that all of the teachings asserted in the rejection are found in Ono. Applicant has not disputed this fact. With respect to the combination of Ono with Okamoto, Applicant states, "Even if combined, there is still no suggestion for the concentration of claim 3. There is no

suggestion that the split segments of the two references in the crank field would yield optimization in the claimed range". It appears as if Applicant is acquiescing to the combination rejection with respect to claims 1, 2, 4, 5 and 10, by only arguing claim 3. The

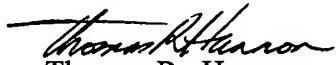
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas R. Hannon whose telephone number is (571) 272-7104. The examiner can normally be reached on Monday-Thursday (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thomas R. Hannon
Primary Examiner
Art Unit 3682

trh